

MANAGEMENT PLAN

'Alpine Nature Trail'

JULY 1998



Cornwall Wildlife Trust

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PART 1 - DESCRIPTION

1.1 General information

1.1.1 Location

The 'Alpine Nature Trail' (Clarrick Woods) is located on the Rame Peninsula, to the south-east of the village of Millbrook (appendix 1 - location map). Vehicular access is via the B3247, with parking available for 3-4 cars in two lay-bys on opposite sides of the road. To the east is Mount Edgcombe Country Park, which borders Plymouth Sound. To the west of the site a public footpath climbs from Millbrook Lake to the B3247.

1.1.2 Summary description

Site: 'Alpine Nature Trail'
(Clarrick and Pigshill Woods)
Status: Wildlife Site (Cornwall Nature Conservation Site CN 43 - Clarrick and Pigshill Woods).
Area of Outstanding Natural Beauty
Parish: Maker-with-Rame
District: Caradon
Region: Cornwall
OS Sheet Number: 201 (1:50 000)
OS Grid Reference: SX 4309 5159 (Site entrance from lay-by)
Total area: 8.92 hectares

1.1.3 Land tenure

Leasehold

The Earl of Mount Edgcombe, who is entering into a 21-year lease agreement with the 'Alpine Nature Trail', owns the land.

1.1.4 Map coverage

a) Maps currently available:

Ordnance Survey

1:50 000	Sheet 201
1:25 000	Sheet 1356
1:10 000	Sheet SX 45 SW
1: 2500	Sheet SX 4351 4352

b) Geological Survey

1:50 000	Sheet 348
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c) Soil Survey

1:250 000	Sheet 5
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d) Vegetation Maps

Clarrick & Pigshill Woods CN 43 (1983) Ancient Woodland Survey, held at the Cornwall Wildlife Trust.

Clarrick & Pigshill Woods CN 43 Extension (1985), held at the Cornwall Wildlife Trust.

Phase One survey map, held at the Cornwall Wildlife Trust.

e) Miscellaneous

1:63 360 Agricultural Land Classification Sheet 175

1.1.5 Photographic coverage

Aerial photographs available from County Hall, Truro, dated 1947, 1988 and 1995.

Chapter 1.2 Environmental information

The climate data provided below is based upon records taken at Plymouth and Ellbridge weather stations (Climatological memorandum, 1983). Clearly, variations in topography and other factors influence the local climate at the 'Alpine Nature Trail'.

1.2.1 Physical

1.2.1.1 Climate

The climate of the south coast is influenced by its close proximity to the sea, resulting in warm winters, cool summers and relatively high rain fall (Findley *et al.*, 1985).

1.2.1.2 Temperature

Temperature is expressed as median accumulated temperature above 0 degrees centigrade (day-degrees), January to June, where the south coast returns a value of 1550, with an average growing season of 275, being defined as the average period during which the soil temperature at 30cm depth is consistently above 6 degrees centigrade (Findley *et al.*, 1985).

1.2.1.3 Rainfall

Precipitation is based upon the annual figure for the year. For the south coast of Cornwall the annual value is 1200mm (Findley *et al.*, 1985).

1.2.1.4 Geology

To the south-east of the Rame peninsula the geology is of the Lower Devonian Dartmouth Group, to the north-east and west of which is the Lower Devonian Meadfoot Group, both being mainly slates with some shale (Bristow, 1996). The 'Alpine Nature Trail' is situated on the boundary between these two areas of slate.

1.2.1.5 Geomorphology

The Rame peninsula extends from the north-west to the south-east, the land undulates, reaching a maximum height of 120 metres. The aspect of the 'Alpine Nature Trail' is north facing. The site is located along the normal slope, which becomes steeper towards the northeast. The angle of slope lessens towards the break of slope. At the base of the slope, between the woodland and meadow, several springs emerge. The slope follows a fault line from the concave point of Cawsand Bay travelling north-west, terminating at Bodmin Moor (Bristow, 1996).

1.2.1.6 Soils

Soils are of the Denbeigh 1 Series (541j); they are well drained (wetness class I), fine loamy and fine silty soils (Findley *et al.*, 1985).

1.2.2 Biological

NCC phase 1 survey was carried out during May 1997 at the 'Alpine Nature Trail', identifying five habitat types, these being:

Broadleaved semi-natural woodland.

Plantation.

Mixed semi-natural woodland.

Mixed plantation.

Scrub (SWEB Wayleave).

Hedges also occur on the site and a small area of grassland.

Broad definitions of these habitats follow:

Three types of this woodland occur on the site: broadleaved semi-natural woodland, mixed semi-natural woodland and mixed plantation.

Recent secondary woodland occurs on sites which have not been continuously wooded since 1600. They have been either open fields or grazing land in the past. Plant and animal species diversity is lower than ancient woodlands although they may have acquired ancient secondary woodland characteristics, depending upon the proximity of an ancient woodland site (Rackham, 1985).

Plantation woodlands are of any age and can comprise broadleaved, mixed or coniferous trees. Included in this description are plantations of any coniferous species, beech, sweet chestnut, sycamore, southern beech and Japanese larch planted so densely that the understorey is suppressed (Rackham, 1985).

Scrub is sereal or climax vegetation, dominated by locally native shrubs, usually less than 5m tall, occasionally with scattered trees (NCC, 1990).

Hedges are linear enclosing mounds which are not regular masonry. Species composition varies according to aspect, location and manner of construction.

The following compartment descriptions are compiled from the results of a NCC phase I habitat survey (appendix 3 - phase one habitat map) and from the paper records listed below:

Botanical Survey, 1983, Ancient Woodland Survey. N.Kennedy.
Botanical Survey, 1985, Cashman and Jones.
Botanical Survey, 1996, S. Cox.
Botanical Survey, (Bryophyta) 1996, M.Pool.
Fauna Survey, 1996. Plymouth College of Further Education.
Winter Bird Survey, 1996/1997, I.Stone.

The site is divided into 16 compartments, 1a to 6a. Compartments are shown in appendix 3, being based upon diffuse vegetation boundaries identified by phase 1 NCC habitat survey.

1 - Plantation woodland - Japanese larch plantation

This occurs in compartments 1a, 1b, 1c.

Physical - The land is strongly sloping towards the north (8-11°). The larch plantation is located across the hillside.

Botanical - The compartments 1a, 1b, 1c are dominated by Japanese larch *Larix kaempfer*, with sycamore and beech. Occasional pendunculate oak *Quercus robur*, hazel *Corylus avellana* and sweet chestnut *Castanea sativa* occur. The understorey varies between 5% and 80% cover, being dependent upon the amount of light reaching the woodland floor. The ground layer is dominated by bluebell *Endymion non-scriptus*, scaly male-fern *Dryopteris affinis*, lady fern *Athyrium filix-femina*, hart's tongue fern *Phyllitis scolopendrium*, bracken *Pteridium aquilinum*, honeysuckle *Lonicera periclymenum* and broad buckler fern *Dryopteris austriaca*.

History and management - The plantation was established in 1949. Prior to planting, the area was pastureland with a wooded fringe. This is shown on the 1947 aerial photograph and by old Cornish hedgerows within the woodland marking the old field boundaries.

2 - Recent secondary woodland - Mixed beech/larch plantation

This occurs in compartments 2a, 2b, 2c, 2d, 2e, 2f, 2g.

Physical - Part dominating the normal slope, extending past the break of slope to the receiving site. These compartments occur on a slope which runs in an east-west direction. To the north the slope is shallower.

Botanical - Beech *Fagus sylvatica* is the dominant tree species, and sycamore *Acer pseudoplatanus* is a frequent component, interspersed with locally abundant hazel, pendunculate oak, sweet chestnut, ash *Fraxinus excelsior* and occasional self-set larch. Where the canopy is open, bramble dominates the understorey. Rhododendron *Rhododendron ponticum* is a prominent species in the wetter areas of the site (compartments 1b and 5a), as is honeysuckle. Other species of vegetation include broad buckler fern *Dryopteris dilatata*, hart's tongue fern, ground ivy *Glechoma hederacea* and Ivy *Hedera helix*.

Few indicators of ancient semi-natural woodland are found. Species in the broadleaved compartments are consistent with recent secondary woodland i.e. sycamore, beech, sweet chestnut, ash with an understorey of rhododendron.

History and management

The mixed beech plantation is of considerable age, consisting of high forest (compartment 2e and 2d) with some evidence of coppicing (compartment 2b) and pollarding (compartment 1b, 5a). The regimented structure of tree arrangement within compartments 2e and 2d strongly indicates broadleaved plantation forestry.

3 - Recent secondary woodland - Hazel coppice

This occurs in compartments 3a, 3b, 3c.

Physical - The hazel is located in four sections. One is to the south of the main track, extending up the slope. Two compartments are to the north of the junction of the pathways, beginning within the ride created by SWEB and extending in a southerly and easterly direction into the beech plantation, (compartments 2e and 2f). The final area extends into compartment 2e from the lower forest extraction track.

Botanical - The hazel is generally mature and of a single age class through the four compartments. Occasional hazels have fallen (lodged) due to angle of slope and a top-heavy crown. This has encouraged new shoots to develop from the fallen trunk.

The first group of hazels (compartment 3a) consists of approximately 17 individuals on the slope, the remaining compartments 3b, 3c approximately 20 individuals each. The understorey is open with occasional bramble, the dominant ground species is bluebell.

History and management

The hazel is mature and there is little evidence of any management having occurred within the recent period.

4 - Grassland

This occurs in compartment 4a.

Physical - The grassland (compartment 4a) is located in a shedding site at the apex of the slope, (OS 5975) bordering the B3247. The compartment is 0.45ha, being bounded by a hedgerow to the south, a scrubby margin of blackthorn to the north with mature individuals of european gorse. The woodland extends to the east and west; a scrubby belt marks the boundary between the woodland and grassland.

Botanical - Compartment 4a is dominated by bracken (which occupies approximately 90% of the total area), with silverweed *Potentilla ansernia*, rosebay willowherb *Chamaenerion angustifolium* and blackthorn *Prunus spinosa* encroaching from the fringe.

History and management - Compartment 4a has not been under agricultural management for some time. No grazing has been carried out within the recent period.

The nature, shape and size of the compartment would suggest that this is an area of old pasture, which without agricultural management is reverting to a mixed scrubby flora indicative of disturbed acid grassland. Open grassland is evident on the 1947 aerial photograph.

5 - Recent secondary woodland - Wet woodland

This occurs in compartment 5a.

Physical - This area has developed at the bottom of a slope where several spring lines emerge.

Botanical - The compartment comprises a combination of wetland, woodland and grassland species. Larch is a significant component of the stand. It is interspersed with mature alder *Alnus glutinosa*. (This area displays the majority of lodged larch, due to instability caused by the wet soil conditions, providing insecure root-plate anchorage). Other species include grey willow *Salix cinerea*, pendulous sedge *Carex pendula*, opposite-leaved golden-saxifrage *Chrysosplenium oppositifolium*, marsh thistle *Cirsium palustre*, yellow pimpernel *Lysimachia nemorum*, water mint *Mentha aquatica*, broad buckler fern *Dryopteris dilatata* and wood speedwell *Veronica montana*.

History and management - It is possible that this area may have been utilised for collecting water for stock, as there is a concrete 'well like' structure within the slope. Also, drainage channels have been created at the base of the slope. The broadleaved aspect of this compartment predates the larch plantation (compartments 1a, 1b, 1c) containing mature alder and pollarded beech. This section is also clearly visible on the 1947 aerial photograph.

Habitat 6 - Scrub

This is found within compartment 6a (SWEB Wayleave).

Physical - The compartment is linear, created as an access way and safety clearing for SWEB to the power over-sail. It runs from the southeast corner of the woodland in a northeasterly direction across the slope; It is approximately 12 metres in width and traverses the larch plantation (compartments 2e, 2f).

Botanical - The ground flora here is indicative of disturbed woodland. Brambles dominate with occasional hazel and goat willow *Salix caprea*. Other species present include nettle *Urtica dioica* and common sorrel *Rumex acetosa*. In the damper areas creeping buttercup, wavy bitter-cress *Cardamine hirsuta*, wild angelica *Angelica sylvestris* and remote sedge *Carex remota* occur.

History and management - Management is by SWEB, who may request access at any time. Management of the ride should be flexible to accommodate disturbance. The wayleave is visible on the 1995 aerial photograph.

1.2.2.1 Flora

89 species of flowering plant, 10 species of fern, 22 species of trees and shrubs and 13 species of grass have been recorded on the site (Cox, 1996). A full species list is enclosed within appendix 5.

Species of note include:

pignut	<i>Conopodium majus</i>
wood speedwell	<i>Veronica montana</i>

These are ancient semi-natural woodland indicators of relevance to Cornwall. Without other pertinent indicators it is not sufficient to assume that the woodland is ancient semi-natural.

The moss *Plagiothecium curvifolium* is the first record of this species in Cornwall.

1.2.2.2 Fauna

Eight mammal species have been recorded:

Roe deer	<i>Capreolus capreolus</i>	Bank vole	<i>Clethrionomys glareolus</i>
Fallow deer	<i>Dama dama</i>	Field vole	<i>Microtus agrestis</i>
Badger	<i>Meles meles</i>	Wood mouse	<i>Apodemus sylvaticus</i>
Grey squirrel	<i>Sciurus carolinensis</i>	Pygmy shrew	<i>Sorex minutus</i>

(Ryder *et al.*, 1996 and Cox, 1996)

1.2.3 Cultural

Plantation woodland is a direct result of human impact. Impacts to the site include the coniferous plantation, beech plantation, creation of access routes through the woodland, rides, coppice management, fly tipping, infrastructure and drainage.

1.2.4 Ecological relationships and implications for management

Hydrology: The wet flush to the northwest has vegetation and communities, which are dependent upon, water logged soils and poor drainage. Species identified either side of the path leading to compartment 4a require wet soil conditions. This should be taken into account when managing the path and margins.

Morphology: The larch plantation is on a significant slope (12-15° moderately steeply-sloping). This slope will affect surface streaming and the through-flow of water. Following selective felling water quality within the receiving site may be effected. Appropriate, low impact management is required to minimise the effect of the above processes.